User's Manual for *PEER VIII* (print edition) Online Testing Site and *PEER VIII Online* July 11, 2012

Questions?

- Read the User's Manual.
- Read "Frequently Asked Questions" here and here.
- Call the ACEP Member Care Center Monday through Friday, 8 to 5 Central, 800-798-1822.
- E-mail us at ACEPBookstore@acep.org.
- Here's the ACEP Privacy Policy.
- Computer system requirements: a computer or mobile device with an Internet connection and a standard browser (Internet Explorer, Safari, Firefox, Chrome); also, Adobe Reader and connection to a printer if you want to view and print your reports or CME certificates.

CME Credit Information for *PEER VIII Online*

- Date of review by CME provider: April 11, 2012
- Release date: July 11, 2012
- Expiration date: October 14, 2014
- Learner Objective: On completion of *PEER VIII Online*, you should be able to demonstrate cognitive expertise on topics from "The Model of the Clinical Practice of Emergency Medicine" and preparation sufficient to pass an emergency medicine written certification examination.
- Accreditation Statement: The American College of Emergency Physicians is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.
- Designation Statement: The American College of Emergency Physicians designates this enduring material for a maximum of 55 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
- Approval Statement: Approved by the American College of Emergency Physicians for 55 hours of ACEP Category I credit.
- Approved by the American Osteopathic Association for 55 hours of AOA Category 2-B credit (requires passing grade of 70% or better).
- Target Audience: *PEER VIII Online* is designed for emergency physicians.
- Please note: CME credit can be claimed for the *PEER VIII* print edition and *PEER VIII Online* only once per subscriber, per format. **There is no CME credit for the free *PEER VIII* Pretest.**

How to Get Started

- Go to: www.acep.org/PEERVIIITesting
- Log in with your ACEP Username and Password. If you don't know what they are, follow the links or call 800-798-1822.
- Go through all four phases of the educational activity in this order:
    - **Phase 1: Self-Assessment (Pretest)** The first time you log in, you'll go to Pretest. You'll do Pretest only once, even if you purchase both the *PEER VIII* print edition and *PEER VIII Online*. On subsequent logins, you'll go to the Main Menu. **If you're an ACEP member taking the free *PEER VIII* Pretest, you'll have access to Phase 1 only. If you purchase *PEER VIII*, your Pretest scores will be retained.**
    - **Phase 2: Study and Practice**
    - **Phase 3: Post-Test**
    - **Phase 4: Evaluation**

How to Do Phase 1

- Read the instructions on the screen.
- Click both attestation statements after reading the User's Manual.
- Answer the questions **closed book**. (Read the stem and answer set, choose one best answer, click its letter, then click "OK.")
    - You don't have to answer all 90 questions in one sitting. Every question screen has a button that says "Quit and Return to Main Menu." If you want to stop, click it.
    - When you want to start again, log in. You'll go to the Main Menu. Scroll down to the grid and click the green "Resume" icon for Pretest to pick up where you left off. Or, click "Phase 1" in the black navigation bar at the top of the screen.
    - After you answer all 90 Pretest questions, your score report will appear. Your overall score will be at the top, followed by your results by category, followed by your results by acuity and age modifier. You can save your results as a PDF. You can also look at them anytime from the Main Menu.
- Click "Main Menu" or "Phase 2 Menu" to proceed. **If you're an ACEP member taking the free *PEER VIII* Pretest, you can purchase *PEER VIII* or go to "Main Menu" or exit by closing your browser.**

How to Do Phase 2

- Read the instructions on the screen.
- Put your mouse over the words "Phase 2: Study and Practice" in the black navigation bar to get the drop-down menu.
- Pick a category and click it to begin.
    - **How should you pick a category?** You can go through them in the order they appear. Or you can start with the category you did best in on the Pretest – or the worst. The purpose is to study and practice in each category at least once to improve your cognitive expertise.
- Read the stem and answer set, choose one best answer, click its letter, then click "OK." Look below the answer set – and below the image, if there is one – to see whether you're right.
    - **Don't hit the "Back" button on your browser** – it will lower your score. Remember, this is study and practice – a low score in this phase won't keep you from getting CME credit.
- **Study the answer explanations. This is a key component of the educational activity: each explanation is an essay on the topic. It explains the correct answer, but it also explains why the "foils" are not correct. This will better prepare you to answer other questions on the same topic, whether later in *PEER VIII* or on an actual exam.**
    - If you purchased the *PEER VIII* print edition, the explanations are in your "Answers" book; the number in parentheses in the blue bar on the screen corresponds to the answer number in the text. (To see which questions are in each category, **go to the "Question Numbers by Category" key in the "Testing Information" tab**.)
    - If you purchased *PEER VIII Online*, the explanations appear on the screen. If there's an image, you'll have to scroll past it to read the explanation.
- Click "Next" to move to the next question.
- Click "Quit and Return to Main Menu" to stop answering questions.
    - Remember to check the Main Menu to see which tests you've started (you'll probably have to scroll down to see it). From there you can review, retake, and resume your Phase 2 practice tests as many times as you want, even after you finish *PEER VIII* and/or *PEER VIII Online* and generate your CME certificate.
- After you've been through all 20 categories and you're ready to try the Post-Test, click "Phase 3: Post-Test" from the black navigation bar on the Main Menu.

How to Do Phase 3

- Read the instructions on the screen.
- Click the attestation statement.
    - If you purchased both the *PEER VIII* print edition and *PEER VIII Online*, choose which activity's Post-Test you want to work on.
- Answer the questions **closed book**.

    - You'll see whether you're right when you click "OK," but **don't hit the "Back" button on your browser** – it will lower your score and we can't fix it. Just click "Next" to move to the next question.
    - You don't have to answer all 450 questions in one sitting. Every question screen has a button that says "Quit and Return to Main Menu." If you want to stop, click it.
    - When you want to start again, log in. You'll go to the Main Menu. Scroll down to the grid, then click the "Resume" icon next to the "Practice Post-Test" you were working on to pick up where you left off. If you want to start over from question 1, click the "Retake" icon.
    - **Be sure to read and understand the "Retake" and "Resume" commands before you click them: we can't reset any of your test results or override anything you click or save. If you don't like a practice test score, your only recourse is to retake it.**
- After you answer all 450 Post-Test questions, your score report will appear. It will show you how you did overall, in each category, and in the acuity frames and age modifiers. It will also show you how you did compared to your Pretest results. **Remember, you must score 75% or higher to get the CME credit certificate.**
    - **If you want to save this test as your final result**, click "Save as Final Post-Test and Go to Phase 4: Evaluation." Remember, final means final – if you save this result, we can't un-save it or reset it for you.
    - **If you do not want to save this test as your final result**, click "Save as Practice Post-Test and Return to Main Menu." Remember, you can take a **practice** post-test as many times as you want from the Main Menu by clicking the "Retake" icon, but you can take your Final Post-Test only once.
- After you save your Final Post-Test, you'll go to the evaluation.

How to Do Phase 4

- Answer all 10 questions.
- Read the instructions at the end of the evaluation and click Submit.
- Read the recap of your Final Post-Test and the information that will appear on your CME certificate.
- To get your CME certificate, click "Generate CME Certificate" then follow the instructions in the ACEP CME Tracker.

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- Force Majeure. To the extent caused by force majeure, no delay, failure, or default will constitute a breach of this Agreement.
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PEER VIII: Physician’s Evaluation and Educational Review in Emergency Medicine, Volume 8

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Method of Participation: How to Use *PEER VIII Online*

The *PEER VIII Online* instructional design is based on four phases: self-assessment, study and practice, post-test, and evaluation. To complete *PEER VIII Online* as designed and earn *AMA PRA Category 1 Credit*™, you will have to complete all four.

- **Self-Assessment –** A key component of the *PEER VIII Online* design is self-assessment, so your learning experience will begin with a Pretest. The purpose of the Pretest is to determine your baseline score answering questions drawn from all categories of "The Model of the Clinical Practice of Emergency Medicine," or "EM Model," as well as a few additional topics from the "Table of Specificity." We strongly recommend that you answer the Pretest questions closed book to get an accurate preactivity score. After you answer the 90 Pretest questions, you will get a score report. It will show you how you did overall, but it will also show you how you did in each category, in each age modifier, and in each acuity frame. Your results will give you a good idea of how you need to approach the next phase of the activity. **Completing the Pretest is required; you will not be able to start the practice tests or the Post-Test until you have answered all 90 Pretest questions.**
- **Study and Practice –** The next phase of the *PEER VIII Online* activity is to practice answering questions and study the questions and answer explanations together. In Phase 2, you will practice answering questions and study the explanations by category, perhaps to focus on an area that had a lower Pretest score. There are 20 categories. You can spend as much time in each category as you need to based on your Pretest results; there is no limit to how many times you can take a practice test. Make note of your score each time you finish a category. Your studying and continuing practice should result in improved scores each time.
- **Post-Test –** When you are satisfied with your study effort and believe that you have improved your cognitive expertise sufficiently to achieve a passing score on a written board exam, go ahead and take the full 450-question Post-Test. You will see your scores when you finish. If you are satisfied with your score – remember, you have to make 75% or better to get the CME credit certificate – then save that version as your Final Post-Test. Otherwise, go back to the study and practice phase for as long as you need to. The *AMA PRA Category 1 Credit™* for *PEER VIII Online* is "good" until the expiration date. **Your score will be printed on your CME certificate along with the number of hours you claim.**
- **Evaluation –** When you save your Final Post-Test, the scoring program will direct you to an evaluation. It comprises 10 demographic and evaluation questions, and you have to answer all of them to generate a CME certificate. Your responses are very important to us. They help us make future editions better learning tools. You will also have to tell us how many hours you spent in the activity; that is the number of *AMA PRA Category 1 Credits™* you can claim up to a maximum of 55.

PEER VIII Editorial Board

The American College of Emergency Physicians gratefully acknowledges the contributions of the PEER VIII *Editorial Board in the development and writing of the* PEER VIII *questions and answer explanations.*

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In *PEER VIII,* in most cases, drugs and devices are referred to by their generic names. In a few cases, however, brand names do appear for the sole purpose of clarification or easier recognition. Brand names were obtained from a variety of sources, including the National Center for Biotechnology Information of the U.S. National Library of Medicine (http://www.ncbi.nlm.nih.gov/). If more than one brand name was found, they are listed, up to three. In no instance is a drug or device listed by a brand name for a commercial purpose.

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From the Editor, as published in the print edition, third printing, May 2012

Thank you very much for purchasing the eighth edition of the *Physician's Evaluation and Educational Review in Emergency Medicine (PEER)* series. This self-assessment educational product has been used by tens of thousands of emergency physicians since 1974 to review the clinical practice of emergency medicine. For more than 30 years, it has served as a guide to physicians studying for the national board examinations, including the in-training, qualifying, and continuous certification exams.

Over the past 5 years, the emergency medicine board examinations and the technology used to study and take these exams have been changing. As we strive to continue to model *PEER* after the American Board of Emergency Medicine (ABEM) examinations, we have made changes throughout the text. The questions now contain only four selections for answers, a change that has already been made on the ABEM in-training exam and is being implemented over time for the qualifying and continuous certification examinations. When selecting topics, the Editorial Board chose conditions, presentations, and physician tasks from "The Model of the Clinical Practice of Emergency Medicine," as well as from the "Table of Specificity" developed by the American Osteopathic Board of Emergency Medicine. With only a few exceptions, all answer explanations in *PEER VIII* are supported by and then referenced to at least two of the most up-to-date resources, including textbooks, journal articles, and guidelines developed by national organizations. Although we have worked very hard to ensure that the answers and explanations are as accurate as possible, information in this publication should not be used to make decisions regarding standard of care.

New guidelines from the Accreditation Council for Continuing Medical Education for obtaining CME credit helped guide the development of a different method of using *PEER VIII* as a testing tool. To obtain up to 55 *AMA PRA Category 1 Credits*™, you will first have to take a 90-question Pretest to establish a baseline score and determine your topic-specific study needs. After that, you will use the books and the online practice tests by category to study, and when you are ready, you will take the full 450-question post-test. If you score 75% correct or better, you can generate your CME certificate. If you do not, then you can continue practicing and studying and take the post-test again to achieve the passing grade. You will do the pretest, practice tests, and post-tests via computer, with the format being a close match to the real ABEM computer-based qualifying and certification examinations. *PEER VIII* comprises 450 questions, which is 40 more than we developed for *PEER VII*. As with the last edition of *PEER*, all questions and images are completely new to allow those of you who used *PEER VII* to find this edition a new experience. This is a major undertaking for the Editorial Board, but I hope you agree with us that it is well worth the effort. As emergency medicine becomes more facile and dependent on advanced imaging modalities, the national boards and associations are expecting more competence in reading basic pathology on both CT cans and ultrasound images. These have been included here, with explanations in the answers to help identify key image components.

Finally, we have redesigned all the answers so that the discussion of the key component of the topic appears within the first few sentences of the answer explanation. We hope this will help you use the answer book during a quick review before an examination and focus your learning. This will also help us as we move forward in the future with mobile formats for *PEER*.

We hope this edition of *PEER* continues to provide a comprehensive format for reviewing the essentials of emergency medicine. As our residents have praised in the past, the Editorial Board and all our contributors have worked hard to make this "the closest thing to taking the Boards." – *Mary Jo Wagner, MD, FACEP, Editor-in-Chief*, *September 2011*

Reference Ranges for Selected Laboratory Test Results

Alanine aminotransferase (ALT). . . . . 10-40 units/L
Albumin. . . . . 3.5-5 g/dL
Alkaline phosphatase. . . . . 30-120 units/L
Aspartate aminotransferase (AST) . . . . . 10-35 units/L
B-type natriuretic peptide (BNP). . . . . <100 pg/mL
Bicarbonate . . . . . 22-28 mEq/L
Bilirubin, direct (conjugated). . . . . 0.1-0.3 mg/dL
Bilirubin, total. . . . . 0.3-1.2 mg/dL
Blood urea nitrogen (BUN). . . . . 8-20 mg/dL
Calcium. . . . . 8.8-10.2 mg/dL
Carbon dioxide . . . . . 22-28 mEq/L
Chloride. . . . . 95-105 mEq/L
Creatine kinase (CK). . . . . 40-150 units/L
Creatine kinase-MB fraction (CK-MB) . . . . 0%-6% of total CK
Creatinine . . . . . 0.6-1.2 mg/dL
d-dimer. . . . . <500 mcg/mL
Erythrocyte sedimentation rate (ESR) . . . . 0-20 mm/hr
Glucose . . . . . 70-110 mg/dL
Hematocrit (Hct). . . . . 33%-43%, female; 39%-49%, male
Hemoglobin (Hgb). . . . . 12-15 g/dL, female; 13.5-16.5 g/dL, male
Lactate. . . . . 5-15 mg/dL
Lactate dehydrogenase (LDH) . . . . . 100-200 units/L
Lipase. . . . . 0-160 units/L
Magnesium . . . . . 1.8-3 mg/dL
Partial thromboplastin time (PTT). . . . . 25-35 seconds
Pco 2. . . . . 35-45 mm Hg
pH. 7.35-7.45
Phosphorus . . . . . 2.5-5 mg/dL
Platelets. . . . . 150-450 □ 103/mcL
Po 2. . . . . 80-100 mm Hg
Potassium. . . . . 3.5-5 mEq/L
Prothrombin time (PT). . . . . 10-13 seconds
Sodium . . . . . 135-145 mEq/L
Troponin I. . . . . <0.6 ng/mL
White blood cells (WBCs). 3,500-9,800/mcL

Abbreviations

ABG. . . . . Arterial blood gas
ACE. . . . . Angiotensin-converting enzyme
AIDS . . . . . Acquired immunodeficiency syndrome
ALS . . . . . Advanced life support
ALT. . . . . Alanine aminotransferase
AP. . . . . Anteroposterior
ARDS. . . . . Adult respiratory distress syndrome
AST. . . . . Aspartate aminotransferase
AV . . . . . Atrioventricular
BLS . . . . . Basic life support
BNP. . . . . B-type natriuretic peptide
BUN. . . . . Blood urea nitrogen
C. . . . . Centigrade
CBC. . . . . Complete blood cell
CK. . . . . Creatine kinase
CK-MB. . . . . Creatine kinase-myocardial band
cm. . . . . Centimeter
CNS. . . . . Central nervous system
COPD. . . . . Chronic obstructive pulmonary disease
CPR. . . . . Cardiopulmonary resuscitation
CSF . . . . . Cerebrospinal fluid
CT. . . . . Computed tomography
dL . . . . . Deciliter
ECG. . . . . Electrocardiogram

EEG. . . . . Electroencephalogram
EMS. . . . . Emergency medical services
EMT. . . . . Emergency medical technician
ENT. . . . . Ear, nose, and throat
ESR . . . . . Erythrocyte sedimentation rate
F . . . . . Fahrenheit
FAST . . . . . Focused assessment with sonography for trauma
Fio 2. . . . . Fraction of inspired oxygen
g. . . . . Gram
hCG. . . . . Human chorionic gonadotropin
Hct. . . . . Hematocrit
Hgb. . . . . Hemoglobin
HIV. . . . . Human immunodeficiency virus
hpf. . . . . High-power field
ICU. . . . . Intensive care unit
in. . . . . Inches
INR . . . . . International normalized ratio
IVP. . . . . Intravenous pyelogram
kg. . . . . Kilogram
L. . . . . .Liter
LDH. . . . . Lactate dehydrogenase
m. . . . . Meter
mcg . . . . . Microgram
mcL. . . . . Microliter
mEq. . . . . Milliequivalent
mg. . . . . Milligram
MI . . . . . Myocardial infarction
min . . . . . Minute
mL. . . . . Milliliter
mm Hg. . . . . Millimeters of mercury
MRI. . . . . Magnetic resonance imaging
MRSA. . . . . Methicillin-resistant *Staphylococcus aureus*
NSAID. . . . . Nonsteroidal anti-inflammatory drug
PA . . . . . Posteroanterior
PEFR. . . . . Peak expiratory flow rate
pg. . . . . Picogram
PPD. . . . . Purified protein derivative
PT . . . . . Prothrombin time
PTT. . . . . Partial thromboplastin time
RBC. . . . . Red blood cell
SA . . . . . Sinoatrial node
tPA. . . . . Tissue plasminogen activator
WBC. . . . . White blood cell

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Figure 43, Robert A. Rosen, MD, FACEP
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Figure 47, University of Iowa Department of Ophthalmology and EyeRounds.org, http://webeye.ophth.uiowa.edu/eyeforum/atlas/pages/Central-Retinal-Vein-Occlusion-CRVO-2.html
Figure 58, Centers for Disease Control and Prevention Public Health Image Library and Dr. James Gathany, http://phil.cdc.gov/phil/home.asp
Figure 62, Hans House, MD, FACEP

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